

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (Currently Amended). A method for amplification of at least one nucleic acid, comprising the following steps: [[-]]

(1) forming at least one nucleic acid template comprising a nucleic acid to be amplified, wherein the nucleic acid contains at the 5' end an oligonucleotide sequence Y and at the 3' end an oligonucleotide sequence Z and, the nucleic acid carries at the 5' end a means for attaching the nucleic acid to a solid support;

(2) mixing the at least one nucleic acid template with one or more colony primers X, which can hybridize to the oligonucleotide sequence Z and carries at the 5' end a means for attaching the colony primers to a solid support, in the presence of a solid support so that the 5' ends of both the at least one nucleic acid template and the colony primers bind to the solid support;

(3) performing one or more nucleic acid amplification reactions on the bound template, so that nucleic acid colonies are generated.

2 (Original). A method as claimed in claim 1, wherein the oligonucleotide sequence Z is complementary to oligonucleotide sequence Y and colony primer X is of the same sequence as oligonucleotide sequence Y.

3 (Previously Presented). A method as claimed in claim 1, wherein two different colony primers X are mixed with the at least one nucleic acid template in step (2), and wherein the sequences of colony primers X are such that the oligonucleotide sequence Z can hybridise to one of the colony primers X and the oligonucleotide sequence Y is the same as one of the colony primers X.

4 (Previously Presented). A method for amplification of at least one nucleic acid, comprising the following steps:-

(1) forming at least one nucleic acid template comprising a nucleic acid to be amplified, wherein the nucleic acid carries at the 5' end a means for attaching the nucleic acid to a solid support;

(2) mixing the at least one nucleic acid template with one or more degenerate colony primers X, which can hybridize to an oligonucleotide sequence in the at least one template at a site flanking the nucleic acid sequence which is to be amplified and carries at the 5' end a means for attaching the colony primers to a solid support, in the presence of a solid support so that the 5' ends of both the nucleic acid template and the colony primers bind to the solid support;

(3) performing one or more nucleic acid amplification reactions on the bound template, so that nucleic acid colonies are generated.

5 (Previously Presented). A method as claimed in claim 1, further comprising the additional step of performing at least one step of sequence determination of one or more of the nucleic acid colonies generated.

6 (Previously Presented). A method as claimed in claim 5, wherein the sequence determination step involves the incorporation and detection of labeled oligonucleotides.

7 (Currently Amended). A method as claimed in claim 5, wherein the full or partial sequences of the amplified nucleic acid templates present in more than one nucleic acid colonies colony are determined simultaneously.

8 (Previously Presented). A method as claimed in claim 5, further comprising the additional step of visualizing the colonies generated.

9 (Currently Amended). A method as claimed in claim 8, wherein said visualization step involves the use of a labeled or ~~unlabelled~~ unlabeled nucleic acid probe.

10 (Previously Presented). A method as claimed in claim 1, wherein the means for attaching the nucleic acid template and the colony primers to the solid support comprises a means for attaching the nucleic acid sequences covalently to the said support.

11 (Original). A method as claimed in claim 10, wherein said means for attaching the nucleic acid sequences covalently to the solid support is a chemically modifiable functional group.

12 (Original). A method as claimed in claim 11, wherein said chemically modifiable functional group is a phosphate group, a carboxyl or aldehyde moiety, a thiol, a hydroxyl, a dimethoxytrityl (DMT), or an amino group.

13 (Original). A method as claimed in claim 12, wherein said chemically modifiable functional group is an amino group.

14 (Previously Presented). A method as claimed in claim 1, wherein the solid support is selected from the group consisting of latex beads, dextran beads, polystyrene, polypropylene surfaces, polyacrylamide gel, gold surfaces, glass surfaces, and silicon wafers.

15 (Previously Presented). A method as claimed in claim 14, wherein the solid support is glass.

16 (Previously Presented). A method as claimed in claim 1, wherein the density of the nucleic acid colonies generated is 10,000/mm² to 100,000/mm².

17 (Previously Presented). A method as claimed in claim 1, wherein the density of colony primers X attached to the solid support is at least 1 fmol/mm².

18 (Previously Presented). A method as claimed in claim 1, wherein the density of nucleic acid templates is 10,000/mm² to 100,000/mm².

19 (Currently Amended). A composition comprising a plurality of different nucleic acid templates comprising the nucleic acids to be amplified, wherein each of said nucleic acids contain at ~~their~~ its 5' ends ~~end~~ a known oligonucleotide

sequence Y and at the 3' end a known oligonucleotide sequence Z, and the nucleic acids carry at the 5' end a means for attaching the nucleic acids to a solid support, said plurality of templates being mixed with a plurality of colony primers X which can hybridise to the oligonucleotide sequence Z and carry at their 5' ends a means for attaching the colony primers to a solid support.

20 (Currently Amended). The ~~plurality of nucleic acid templates~~ composition of claim 19, wherein oligonucleotide sequence Z is complementary to oligonucleotide sequence Y.

21 (Cancelled)

22 (Currently Amended). The ~~plurality of nucleic acid templates~~ composition as claimed in claim ~~21-19~~ wherein the oligonucleotide sequence Z is complementary to oligonucleotide sequence Y and colony primer X is the same sequence as oligonucleotide sequence Y.

23 (Currently Amended). A ~~plurality of nucleic acid templates as~~ The composition ~~elaimed in of~~ claim 19 ~~mixed with~~ wherein said plurality of colony primers X comprises two different colony primers X, wherein the sequences of colony primers X are such that the oligonucleotide sequence Z can hybridise to one of the colony primers X and the oligonucleotide sequence Y is the same as one of the colony primers X.

24 (Currently Amended). A ~~plurality of nucleic acid templates~~ composition as claimed in claim ~~21-19~~, wherein the colony primers X comprise a degenerate primer sequence and the

nucleic acid templates ~~do~~does not contain oligonucleotide sequences Y or Z.

25 (Currently Amended). A solid support to which there is attached ~~a plurality of colony primers X as defined in claim 1 and~~ a plurality of nucleic acid templates comprising the nucleic acids to be amplified, wherein each of said nucleic acids contain at their 5' ends a known oligonucleotide sequence Y and at the 3' end a known oligonucleotide sequence Z and the nucleic acids carry at the 5' end a means for attaching the nucleic acids to a solid support, and a plurality of colony primers X which can hybridise to the oligonucleotide sequence Z and carry at their 5' ends a means for attaching the colony primers to a solid support.

26 (Previously Presented). A solid support as claimed in claim 25, wherein the solid support is selected from the group consisting of latex beads, dextran beads, polystyrene, polypropylene surfaces, polyacrylamide gel, gold surfaces, glass surfaces, and silicon wafers.

27 (Previously Presented). A solid support as claimed in claim 25, wherein the attachment of nucleic acid templates and colony primers to the solid support is covalent.

28 (Previously Presented). A solid support comprising one or more nucleic acid colonies generated by a method as defined in claim 1.

29-32 (Cancelled)

33 (Currently Amended). A kit for use in nucleic acid amplification or sequencing, comprising a plurality of nucleic acid templates ~~as defined in claim 19~~ comprising the nucleic acids to be amplified, wherein each of said nucleic acids contain at its 5' end a known oligonucleotide sequence Y and at the 3' end a known oligonucleotide sequence Z and the nucleic acids carry at the 5' end a means for attaching the nucleic acids to a solid support and one or more colony primers X bound to a solid support, which one or more colony primers X can hybridize to the oligonucleotide sequence Z and carries at the 5' end a means for attaching the colony primers to a solid support.

34 (Original). A kit as claimed in claim 33 of use in sequencing, re-sequencing, gene expression monitoring, genetic diversity profiling, diagnosis, screening, whole genome sequencing, whole gene polymorphism discovery and scoring, or any other applications involving the amplification of nucleic acids or the sequencing thereof.